

CLAIMS

I claim:

1. A method for bonding a first component to a second component, the method comprising:
 - (a) providing a preform of woven fabric having a selected thickness;
 - (b) infusing the preform with an adhesive;
 - (c) adhering at least one surface of the preform to at least one surface of the first component using the adhesive within the preform;
 - (d) curing the adhesive; and
 - (e) attaching the second component to the preform.
2. The method of claim 1, wherein:

the adhesive has a tensile strength less than 6500 pounds per square inch.
3. The method of claim 1, wherein:

the adhesive has a peel strength greater than 15 pounds per linear inch.

1 4. The method of claim 1, wherein:

2
3 step (e) comprises adhering the second component to the preform using the adhesive within
4 the preform prior to curing the adhesive.
5

6
7 5. The method of claim 1, wherein:

8
9 step (e) comprises orienting the second component to be generally perpendicular to the first
10 component after attachment.
11

12
13 6. The method of claim 1, wherein:

14
15 step (e) comprises orienting the second component to be generally parallel to the first
16 component after attachment.
17

18
19 7. The method of claim 1, wherein:

20
21 step (e) comprises fastening the other of the components to the preform using fasteners.
22

23
24 8. The method of claim 1, wherein:

25
26 the preform contains no resin.
27
28

1 9. The method of claim 1, wherein:

2
3 the preform has a base and two legs extending from a surface of the base.
4

5
6 10. The method of claim 1, wherein:

7
8 the preform has a thickness of at least two textile layers.
9

10
11 11. The method of claim 1, wherein:

12
13 step (d) further comprises enclosing the preform and portions of the components in contact
14 with the preform within a collapsible container and drawing air from within the container,
15 air pressure outside of the container collapsing the container and applying forces to the
16 preform and portions of the components during curing.
17

18
19 12. A method for bonding two components orthogonally relative to each other, the method
20 comprising:

21
22 (a) providing a resin-free woven preform with a base and a pair of legs extending from
23 the base generally parallel to each other;

24
25 (b) infusing the woven preform with an adhesive;

26
27 (c) adhering opposing surfaces of one of the components to the inner surfaces of the legs
28 of the preform;

1
2 (d) adhering a surface of the base of the preform to a surface of the other of the
3 components and positioning the components orthogonal relative to each other; then
4

5 (e) curing the adhesive.
6
7

8 13. The method of claim 12, wherein:

9
10 the adhesive has a tensile strength less than 6500 pounds per square inch.
11
12

13 14. The method of claim 12, wherein:

14
15 the adhesive has a peel strength greater than 15 pounds per linear inch.
16
17

18 15. The method of claim 12, wherein:

19
20 step (e) further comprises enclosing the preform and portions of the components in contact
21 with the preform within a collapsible container and drawing air from within the container,
22 air pressure outside of the container collapsing the container and applying forces to the
23 preform and portions of the components during curing.
24

25
26 16. The method of claim 12, wherein:

27
28 step (e) further comprises distributing inward forces across outer surfaces of the preform.

1
2 17. A method for assembling two components, one of the components being planar, the method
3 comprising:

4
5 (a) providing a resin-free, woven, T-shaped preform with a single leg extending from a
6 base;

7
8 (b) infusing the preform with an adhesive, the adhesive having a tensile strength of less
9 than 6500 pounds per square inch;

10
11 (c) adhering a lower surface of the preform to a surface of the planar component;

12
13 (d) supporting the leg of the preform in an upright orientation; then

14
15 (e) curing the adhesive; and

16
17 (f) securing the other of the components to the leg of the preform with a fastener.

18
19
20 18. The method of claim 17, wherein:

21
22 step (d) further comprises using tooling to support the leg of the preform.

23
24
25 19. The method of claim 17, wherein:

26
27 step (e) further comprises using tooling to distribute inward force across outer surfaces of the
28 preform.

1
2
3
4

20. The method of claim 17, wherein:

the adhesive has a peel strength greater than 15 pounds per linear inch.

102020" E63B3B50